

Docket No. HUANG02
US App. No. 10/733,530

IN THE DRAWINGS

Please amend Figs. 2 and 3 as shown in the replacement sheets. A marked copy of the amended Figs. 2 and 3 is also enclosed to show the changes made.

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REMARKS

Status of the Application

The specification was objected to for formality matters. The drawings were objected to for not showing reference sign 72' and 73'. Claims 1-6, 9-14 and 17-18 were rejection under 35 USC 103 as being obvious over the combination of Voskoboinik (US 5,485,355) and Feldman (US 5,753,381). Claims 7 and 15 were rejection under 35 USC 103 as being obvious over the combination of Voskoboinik (US 5,485,355) and Feldman (US 5,753,381), and further in view of Baumberg (US 5,869,930). Claims 8 and 16 were rejection under 35 USC 103 as being obvious over the combination of Voskoboinik (US 5,485,355) and Feldman (US 5,753,381), and further in view of Toguchi (US 6,329,083). Claims 1-18 were further rejected based on double patenting of the "same invention" type over claims 1, 4-7, 9-15, 18-19 and 21-23 of application No. 10/769,306.

Applicant has amended claims 1, 5, 7, 9, canceled claims 2, 7 and 11-18, and added new claim 25. Applicant has also amended the specification and the drawings to correct the informalities. No new matter adds through the amendments. For the reasons discussed below, withdrawal of the rejections and the objections is requested.

Drawing Objections

The drawings were objected to for not showing reference sign 72' and 73'.

Applicant has amended Figs. 2 and 3 to add the reference sign 72' and 73'. Therefore, the objection has been overcome. Withdrawal of the objection is requested.

Specification Objections

The specification was objected to for lack of the office's preferred titles. Applicant has amended the specification, adding proper titles. Therefore, the objection has been overcome. Withdrawal of the objection is requested.

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Claim Rejections- 35 U.S.C. 103(a)

Claims 1-6, 9-14 and 17-18 were rejected under 35 USC 103(a) as being unpatentable over the combination of Voskoboinik et al. (US 5,484,355) and Feldman et al. (US 5,753,381).

Claims 7 and 15 were rejection under 35 USC 103 as being obvious over the combination of Voskoboinik (US 5,485,355) and Feldman (US 5,753,381), and further in view of Baumberg (US 5,869,930).

Claims 2, 7 and 11-18 have been canceled.

Applicant has amended claim 1 to recite "said medium insulating layer is a mixture coat of flexible binder having cyanoethyl as its base and BaTiO₃ powder with a thickness of 25 μ m to 60 μ m". This feature is originally recited in claim 7.

In rejecting claim 7, the Office Action acknowledged that Voskoboinik and Feldman do not teach the medium insulating layer having the above properties. However, Baumberg is cited to teach the medium insulating layer having the properties in claim 7. The Office Action acknowledged that "Baumberg also does not teach the insulating layer (4) being 25-60 μ m thick, but instead 10-15 μ m." However, the Office Action asserted that "At the time the invention was made, it would [be] obvious to a person of ordinary skill in the art to use an insulating layer of 25-60 μ m thickness".

Applicant respectfully disagrees.

The thickness of 10-15 μ m of Baumberg's insulation layer is way out of the range of the amended claim 1 (25-60 μ m). As stated on page 5, second paragraph, of the specification, the thickness of the medium insulation layer has a direct effect on the light emission and bend resistance of the light-emitting filament. The preferred thickness of the medium insulation of the present invention is the result of many experiments. It is unclear how one of ordinary skill in the art would have expected Applicant's invention to perform equally well with a 10-15 μ m thickness as asserted by the Office Action.

One of the important characters of the insulating layer is the breakdown AC voltage. At the breakdown AC voltage, the insulating layer is damaged and can no longer work. Exhibit A shows experiment result of breakdown AC voltage v. thickness of an insulating layer of the present invention. Exhibit B is the declaration of the inventor regarding the experiment result of Exhibit A. This experiment was conducted under the following conditions:

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Frequency of the AC voltage source: 1000HZ
Testing time: 8 Hours after the AC voltage is applied
Testing instrument: Low frequency signal generator
Testing environment: Clean room
Testing temperature: 25 °C Testing humidity: 40%

The experiment result demonstrates that the breakdown Ac voltage for the insulating layer with a thickness of 10-15 μm is 25-35 V, which is significantly lower than the breakdown Ac voltage for the insulating layer with a thickness of 25-60 μm (75-330 V).

For the reasons discussed above, claim 1 as amended is patentable over Voskoboinik, Feldman, and Baumberg.

For at least the same reasons, dependent claims 3-6 and 9-10 are patentable over Voskoboinik, Feldman, and Baumberg. Claims 2, 11-14 and 17-18 have been canceled.

Claims 8 and 16 were rejection under 35 USC 103 as being obvious over the combination of Voskoboinik (US 5,485,355) and Feldman (US 5,753,381), and further in view of Toguchi (US 6,329,083).

As discussed above, the amended claim 1 is patentable over Voskoboinik, Feldman, and Baumberg.

Toguchi cannot cure the deficiencies of Voskoboinik, Feldman, and Baumberg. Clearly, Toguchi fails to teach or suggest "said medium insulating layer is a mixture coat of flexible binder having cyanoethyl as its base and BaTiO_3 powder with a thickness of 25 μm to 60 μm " as required by the amended claim 1. Therefore, claim 1 is patentable over Voskoboinik, Feldman, Baumberg, and Toguchi. Claim 8 depends from claim 1 and, thus, is also patentable for at least the same reasons. Claim 16 has been canceled.

Double Patenting

Claims 1-18 were rejected based on double patenting of the "same invention" type under 35 USC 101. The Office Action alleged that claims 1-18 of this application conflict with claims 1, 4-7, 9-15, 18-19 and 21-23 of Application No. 10/768,306, which has been allowed.

Applicant respectfully traverses the rejection. Claims 1, 4-7, and 9-14 of Application No.

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10/768,306 are directed to a color-changing and multi-colored electroluminescent cable comprising a core wire as the central axis and a group of electroluminescent filaments wound on the central axis. Claims 15, 18-19 and 21-23 of Application No. 10/768,306 are directed to a color-changing and multi-colored electroluminescent cable comprising a group of electroluminescent filaments helically wrung together and a polymer casing tube disposed on the outer side of the group of electroluminescent filaments. Claims 1, 4-7, 9-15, 18-19 and 21-23 recite a conductive layer made of a semi-transparent, semi-solid viscous conductive polymer containing gold and methyl methacrylate. While claims 1-18 of the present invention are directed to a multi-colored electroluminescent filament and do not recite such a conductive layer made of a semi-transparent, semi-solid viscous conductive polymer containing gold and methyl methacrylate. Therefore, they are not directed to the same invention.

Withdrawal of the rejection is requested.

New Claim

New claim 25 has been added, which depends from claim 1.

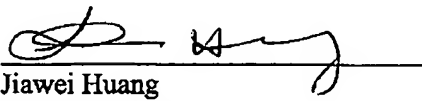
Conclusion

In view of the foregoing amendments and remarks, it is respectfully submitted that the remaining claims are now in condition for allowance. Allowance of this application is earnestly solicited.

Respectively submitted
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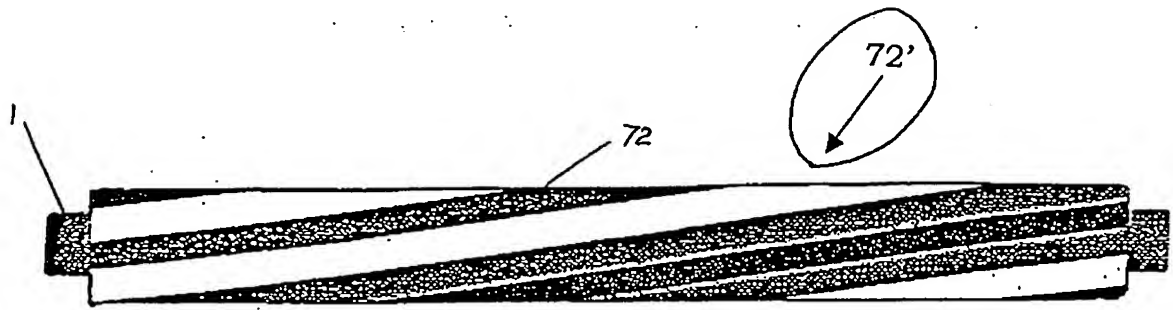
Annotated Marked-up drawing

Fig. 2

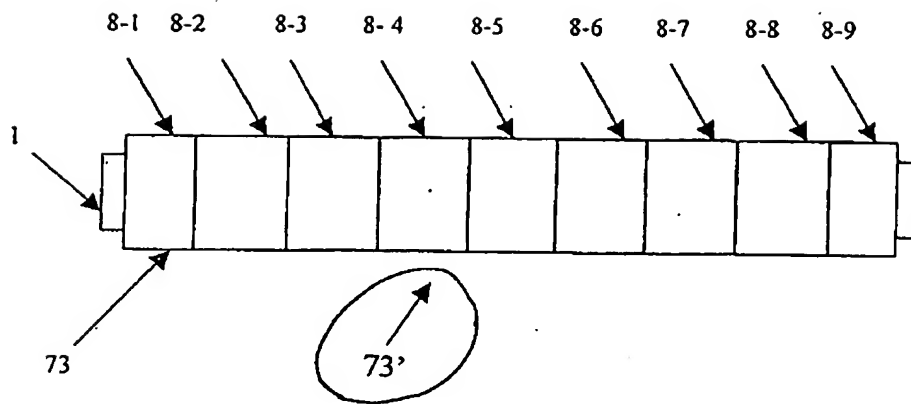


Fig. 3

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